DATA GEM: What Tracts Form my Neighborhood? How to Use the GEOCORR to Identify the Geographies that Make Up your Area Transcript

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Hi, I am Alexandra Barker. I work with data users on a regular basis and it is part of my job to help them learn about census geographies. Whether they are looking for estimates for the nation or a population count for your city block. Geography is a critical element to using and accessing Census data.

The State Data Center in Missouri created a great resource to help us work with Census Bureau's geographies. I invited my colleague Amanda Klimek to show us how to use the GEOCORR by the state data center in Missouri. Let's check it out.

Hi, my name is Amanda Klimek, and I am a survey statistician at the U.S. Census Bureau. Have you ever wondered exactly how much of a zip code is in a county? Maybe, you wanted to know what census tracts make up your County or your town. Did you know that you live in something called a PUMA?

Today, I'll be showing a demonstration of the Missouri State Data Center's geographic correspondence engine, otherwise known as GEOCORR. Which is a powerful tool that data users can use to compare the boundaries from one type of geography to another. We will use this tool to make sense of a particularly unusual census geography the public use microdata area or PUMA. Let's see how it works.

We can navigate to the software to the Missouri Census Data Center website at mcdc.missouri.edu. From the landing page, hover over Geography and click on the "GEOCORR option". On the next page, click on the "GEOCORR 2018" link under the version section. Our users often work with a geography called Public Use Microdata Areas or PUMAS. So, that is what we are going to be working with today. Certain census data sets such as the American Community Survey's Public Use Microdata Sample use a type of data called microdata.

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Microdata allows users to create custom tables such as the ones used to make this data visualization on census.gov on young adults in higher education. This allows users to learn things about their community that aren't always readily available in a pre-made table. Such as the age and race breakdown of a particular occupation or the characteristics of children below a certain poverty level.

GEOCORR is useful for working with data sets like these because people often have to find information using PUMAS, but there are good reasons why PUMAS are used with microdata. PUMAS are areas with a population of at least a hundred thousand, which is small enough to give users useful local information but large enough to protect the privacy of people who respond to our surveys as with anything related to geography seeing PUMAS on a map may help you understand them better.

These two maps are shown at the same scale. You can see that most of the PUMAS in Wyoming are larger than the PUMAS in New Jersey. This emphasizes that PUMAS are truly built based on population and not on physical size. Since PUMAS contain approximately a hundred thousand people regardless of where they're located, you can probably imagine that more urban counties are made up of many PUMAS. Whereas more rural counties could have several counties in one PUMA. Now that we've compared PUMAS to a more familiar geography.

We can see how this works in GEOCORR 2018. Once on the GEOCORR 2018 page, we are going to select our state. For this example, I will select the Census Bureau's Headquarters home in Maryland. If I hold down the control key, I can select more than one state. So, I will select a neighboring state, Virginia. Down in the geography selections, you can see there are a lot of geographies to choose from. The source geography is the geography you want the software to start with, and the target geography is the geography that you want to compare to the source.

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We're working with PUMAS, but we want to know how that would translate to counties. You can find PUMA under 2012 Geographies" and County under 2010 geographies. That just means that these were the years the boundaries were established based on information from The 2010 Census. When working with PUMAS, I find it useful to always start with PUMAS as the source geography.

In this case, County will be the target geography. We'll keep it simple today and leave everything else as is before we click on run request. You can now view this report as a CSV file using programs like excel, or you can view it in your browser.

Today, we will view it in excel. You can just click on this first link, and it will download. Go ahead and open it in excel, and here is our comparison. Here we have the State Code in column A. The PUMA code in column B. The County code in column C. The State abbreviation in column D. The county name in column E, and the PUMA name in column F. Column G gives us the 2010 County Population, which is what our file is using to do the geography conversion. In column H, the variable AFACT is called the allocation factor. It shows us how much of the PUMA is located within the County. A cell value of one means that 100% of the PUMA is located within that County. We see a lot of ones in Baltimore County, meaning that those PUMAS fit neatly within the County. But if we scroll down, we see that James City County, a smaller county where the historic Jamestown settlement was founded, only makes up 42 percent of the surrounding PUMA.

This means that we could combine the PUMA's in Baltimore county to get approximate employment information for that entire County. But if we want to find employment information for those living by Jamestown, we will have to include the surrounding counties as well.

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I hope that this data gem was useful to help explain the key features in GEOCORR 18 and the basics of PUMAS. As you saw in those extensive geography lists, you can use this with other geographies too. For instance, if the County started collecting a new tax and you wanted to know how much of a state legislative district was affected by the new tax, you could use this tool to figure out how much of the County is in that district.

Amanda, this is really helpful. I do use The GEOCORR a lot, and I hope our users find it helpful as well. So, for more videos like this, visit census.gov/academy and subscribe. Thank you.

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